

REMARKS

Claims 1-5, 13-15, and 28-32 remain in the application. Claims 6-12 and 16-27 have been previously canceled. Claims 30 and 32 have been amended to correct simple technical errors. Claims 33-41 have been added.

Rejections Under 35 U.S.C. § 103(a)

Claims 1-5, 13-15 and 28-32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bruce Bartlett, "Tonal Effects of Close Microphone Placement" ("Bartlett") in view of U.S. Patent No. 6,141,425 to Murayama ("Murayama").

The primary reference in the pending § 103(a) rejection is Bartlett. As detailed in its previous response, Applicant submits that Bartlett does not teach nor even suggest several features of the pending claims. For example, claim 1 recites first and second differences in level over first and second respective discrete frequency ranges are determined between the sounds picked up by the first microphone and the reference sounds of the acoustical generator. A first filter element is assembled including components to compensate for the first difference in level, and a second filter element is assembled including components to compensate for the second difference in level. Then an equalizer is constructed by arranging the first and second filter elements to compensate for the first and second differences.

In the current Office Action, it states that:

Bartlett does not explicitly state assembling a first filter element for compensating for a first difference in the sounds in a first discrete frequency range and assembling a second filter

element for compensating for a second difference in the sounds in a second discrete frequency range and constructing an equalizer using the first and second filter elements, per claim 1. However, those method steps were obvious to one of ordinary skill in the art at the time of invention according to the following explanation.

Bartlett suggests that the inverse of the spectral curves shown in figures 4-15 is the equalization needed to make a closely miked instrument sound like the reference sounds. For one of ordinary skill in the art, it was well known that the inverse of the curves can be realized by using an equalizer. An equalizer adjusts the gains in discrete frequency ranges so that an output signal can be shaped according to a specific spectral function. As evidence, see Murayama et al, columns 1 and 2. Murayama et al state that for adjusting the sound quality of an audio signal depending on the playback sound field, a graphic equalizer circuit for splitting the frequency spectrum into plural bands and for changing the gain in each of the split bands is used extensively. Accordingly, with this teaching, which demonstrated a well known practice in the art, one would have been motivated to use a graphic equalizer to correct for the differences in the closely miked sounds and reference sounds.

The Office Action states that Bartlett does not teach the filter element assembling steps of claim 1 (steps 7 and 8) as well as the constructing step (step 9). Looking at Figures 4-15, Bartlett shows inverse spectral curves and states at Pg. 731 "For example, if a steel-string guitar must be miked 80 mm (3 in) from the sound hole to reduce feedback or leakage, it can be made to sound more "natural" by sharply rolling off low frequencies below 300 Hz." At best, Bartlett suggests to one skilled in the art to use a conventional equalizer of some sort to "[roll] off low frequencies below 300 Hz." Again, as admitted in the Office Action, Bartlett does not suggest assembling first and second filter elements and constructing an equalizer as recited in the claim.

Since Bartlett does not suggest these features of the claim, it cannot be said that Murayama does either. Murayama discloses the use of a multi-band equalizer to change gain in a variety of frequency bands. Such a device, though very expensive in 1981 when the Bartlett reference was written, may have been a device considered to perform the "roll off" suggested by Bartlett. The language of the claim clearly calls for assembling filter elements including

components selected to compensate for said first and second differences in level. Nothing in Bartlett suggests such steps, and Murayama does not as well. Murayama does not suggest that any of the bands in its equalizer has been assembled with components selected to compensate for differences in level between sounds from an acoustical generator and reference sounds. Rather Murayama simply changes level in a selected frequency band. The filter elements and components of Murayama were selected to affect a change in level for a selected frequency band no matter what signal is presented to it. Therefore, the Murayama reference misses a key feature of embodiments of the present invention, which is the elimination of the need to experiment in order to find what combination of available filter elements will accomplish the desired goal of compensating for first and second differences between two signals.

The other independent claims, claims 5 and 13 include some of these same limitations, and thus, many of the arguments presented above apply equally as well to these claims.

Other features of the claims are neither taught by or suggested by the cited references. For example, claim 5 recites the performing the steps of playing and comparing sounds with two embodiments of an acoustical generator. There is nothing in Bartlett or Murayama that even remotely considers repeating steps for two generators (e.g., two acoustic guitars) and then assembling filter elements to compensate for differences in the two comparisons and constructing an equalizer with the assembled filter elements.

In view of the above, reconsideration and withdrawal of the rejection of claims 1-5, 13-15 and 28-32 under 35 U.S.C. § 103(a) and allowance of new claims 33-35 is respectfully requested.

CONCLUSION

For all the above reasons, the Applicant respectfully submits that this application as amended is in condition for allowance. A Notice of Allowance is earnestly solicited.

The Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any matter concerning this application. The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 11-0600.

Respectfully submitted,
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